

Economic Relations of Birds to Agriculture.—In this address¹ Prof. Beal gives a general review of the subject in which he very candidly presents the facts in the case as now known. These he summarizes as follows: “(1) Birds are not by the nature of their food habits, as a rule wholly beneficial; nor, on the contrary, entirely harmful. They eat insects because they are hungry, and not because they wish to destroy a pest; and consequently devour good insects with the bad. (2) That not all of the good done by birds is accomplished by the destruction of insects. Many species perform an almost incalculable service by destroying noxious weed seeds. . . . (5) That in view of the abnormal abundance of noxious insects and the accompanying decrease in our native birds it is for the present desirable that the numbers of the latter be largely increased. . . . (7) That it is not desirable to import foreign species of birds to this country. Such experiments, wherever they have been tried, have almost invariably resulted in disaster and loss to the interests of agriculture.”

Bearing on the same general subject is Dr. Judd's paper on ‘Birds as Weed Destroyers,’² in which is discussed at some length the services birds render through the destruction of the seeds of troublesome weeds. The species most active as weed destroyers are of course the Finches and Sparrows, of which there are some twenty species, and the various Larks, Blackbirds, Doves and Quails. Several of these are figured, as well as some of the weeds they help to hold in check. “No less than fifty different birds act as weed destroyers, and the noxious plants which they help to eradicate number more than three score species.” Dr. Judd's paper is a summary of carefully made observations covering a considerable period, and he is thus able to affirm as a fact what seems to be more or less evident to even the superficial observer.

Dr. Palmer's paper on the dangers attending the introduction of foreign animals and birds³ gives most timely advice on a subject that cannot be too seriously weighed in advance of action which, once taken, cannot be retrieved, as many communities have learned at sad cost. Several pages devoted to the general subject are followed by a condensed

¹ Economic Relations of Birds and their Food. By Prof. F. E. L. Beal, Department of Agriculture, Washington, D. C. Reprinted from the Proceedings of the Twenty-fourth Annual Meeting of the New Jersey State Horticultural Society, Jan. 4 and 5, 1899. 8vo, pp. 27.

² Birds as Weed Destroyers. By Sylvester D. Judd, Ph.D., Assistant in Biological Survey. Year-book of U. S. Department of Agriculture for 1898, pp. 221-232, pl. xiv, and text cuts.

³ The Danger of Introducing Noxious Animals and Birds. By T. S. Palmer, Assistant Chief of Biological Survey. Yearbook of U. S. Department of Agriculture for 1898, pp. 87-110, pl. viii, and text cuts.

statement of the history of the introduction, dispersal, and the results of the introduction of some ten species of mammals and seven species of birds into various countries to which they were not native. In nearly every case where the species has found permanent foothold in its new home it has become a pest, in some cases far greater than the evil its introduction was intended to remedy. Several species of Old World rats and mice have been unintentionally carried to nearly all parts of the world, and have thus become almost cosmopolitan pests, but while annoying, and under certain conditions very destructive, their ravages are easily borne in comparison with the losses due to the intentional introduction of the common rabbit of Europe into Australia and New Zealand, the Indian mongoose into Jamaica, and other islands in the West Indies, and into the Hawaiian Islands, and the introduction of ferrets, stoats and weasels into New Zealand to check the rabbit pest. Among birds, we have painful evidence of what may follow the thoughtless introduction of foreign species in that now well-nigh ubiquitous pest, the House Sparrow. Of the many attempts, or proposals to introduce other exotic species into this country the greater part have, fortunately, been attended with little success. The Starling has acquired a strong foothold in the vicinity of New York city, and thus far has apparently proved a well-behaved and attractive bird. It is rapidly increasing in numbers, and we have yet to see whether it will later become as obnoxious and unwelcome as it has under similar conditions in Australia and New Zealand, where "it has adopted a fruit diet to such an extent as to [have already] become a great pest."

Dr. Palmer discusses the proposed introduction of other species of birds to our fauna, and in the light of the past urges that "some restriction should be placed on the importation of birds and mammals which may become injurious." The introduction of European 'song-birds' into the United States has been attempted, with some degree of success, by individuals and by societies organized for this express purpose, but, as Dr. Palmer points out, "Experience with the English Sparrow, the work of rabbits in Australia and of the mongoose in Jamaica, all these have abundantly shown the necessity of preventing the repetition of similar costly blunders." Cape Colony and Western Australia, profiting by the experience of other countries, have already passed rigidly restrictive measures with this end in view, and it is to be hoped that similar legislation will be soon enacted by the United States, pursuant to the wise recommendation urged years ago by Dr. Merriam in his report to the department of Agriculture in 1886. Dr. Palmer in his 'summary,' concludes as follows: "(7) The introduction of exotic birds and mammals should be restricted by law and should be under the control of the United States Department of Agriculture."

Dr. Palmer's paper is a concise and effective presentation of the subject, and we are glad to see that it is gaining extended publicity by republication in full in various widely known and influential journals.—
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